



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,476	08/28/2003	Kevin J. Dowling	C1104-7107.10	6125
7590 06/01/2005			EXAMINER	
Joseph Teja, Jr. Lowrie, Lando & Anastasi, LLP One Main Street Cambridge, MA 02142			PAYNE, SHARON E	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/650,476

Applicant(s)

DOWLING ET AL.

Examiner

Sharon E. Payne

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-101 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-101 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0104 and 0404.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Due to further consideration by the Examiner, the requirement for restriction is withdrawn, and an action on the merits of all of the claims in the application follows.

### ***Claim Objections***

2. Claims 1-21 are objected to because of the following informality: the phrase "a plurality of the lights" should be "the plurality of the lights" in line 5 of claim 1. Claims 2-21 are necessarily included due to their dependency.

3. Claim 34 is objected to because of the following informalities: 1) the phrase "an safety" should be "a safety" in line 2; and 2) the phrase "an maintenance" should be "a maintenance" in line 2.

4. Claims 38-58 are objected to because of the following informalities: 1) the phrase "a plurality of the lights" should be "the plurality of the lights" in line 5 of claim 38; and 2) the phrase "by white light source" should be "by a white light source" in line 1 of claim 51. Claims 39-50 and 52-58 are necessarily included due to their dependency.

5. Claim 72 is objected to because of the following informalities: 1) the phrase "an safety" should be "a safety" in line 2; and 2) the phrase "an maintenance" should be "a maintenance" in line 2.

6. Claim 77 is objected to because of the following informality: the phrase "the head end" should be "a head end" in lines 1 and 2.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-3, 11-13, 18, 20-23, 28, 30-32, 38-40, 48-50, 55, 57-60, 65, 67-70, 74, 76-77, 89 and 90 are rejected under 35 U.S.C. 102(b) as being anticipated by Recknagel et al. (U.S. Patent 6,031,343).

Regarding claim 1, Recknagel et al. discloses a method of illuminating an environment comprising the steps of providing a lighting control signal for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1, see line coming out of the central controller), providing a control system for generating a lighting control signal (central controller, reference number 110), providing a connector between the control system and a plurality of the lights (reference numbers 120<sub>n</sub> and 125), providing an address of the connector (Fig. 1, address module), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1).

Concerning claim 2, Recknagel et al. discloses the connector being a cable (reference number 125) having a head end and a base end (Fig. 1), wherein providing the address of the connector comprises providing the address at the head end of the cable (Fig. 1).

Regarding claim 3, Recknagel et al. discloses the connector being configured to receive a modular light system (Fig. 1), wherein the light system responds to control signals addressed to the address of the connector to which the light system is connected (Fig. 1).

Concerning claim 11, Recknagel et al. discloses the environment containing a corridor (Fig. 2), wherein the light system are disposed to illuminate at least one of the ceiling and the floor of the corridor (Fig. 2). (A set of bowling lanes is a very wide corridor.)

Regarding claim 12, Recknagel et al. discloses the steps of controlling a plurality of lights using the control system to provide illumination of more than one color (abstract, Fig. 1), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42).

Concerning claim 13, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Regarding claim 18, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Concerning claim 20, Recknagel et al. discloses the step of providing a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Regarding claim 21, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

Concerning claim 22, Recknagel et al. discloses the steps of providing a lighting control system (reference number 110, Fig. 1), controlling a plurality of lights using the control system to provide illumination of more than one color (abstract, Fig. 1), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42).

Regarding claim 23, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Concerning claim 28, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Regarding claim 30, Recknagel et al. discloses the step of providing a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Concerning claim 31, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

Regarding claim 32, Recknagel et al. discloses the steps of providing a lighting control signal for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1), providing a control system for generating a lighting control signal (reference number 110), providing a connector

Art Unit: 2875

(reference numbers 120<sub>n</sub> and 125) between the control system and a plurality of the lights (Fig. 1), providing an address of the connector (reference number 120<sub>n</sub>), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1), wherein the lights comprise LEDs selected from the group consisting of red, green, blue, amber, UV, orange and white LEDs (column 4, lines 30-42).

Concerning claim 38, Recknagel et al. discloses a lighting control signal for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1), a control system for generating a lighting control signal (reference number 110), a connector (reference numbers 120<sub>n</sub> and 125) between the control system and a plurality of the lights (Fig. 1), and an address facility of a connector (reference number 120<sub>n</sub>), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1).

Regarding claim 39, Recknagel et al. discloses the connector being a cable (reference number 125) having a head end and a base end (Fig. 1), wherein the address facility is at the head end of the cable (Fig. 1).

Concerning claim 40, Recknagel et al. discloses the connector being configured to receive a modular light system (Fig. 1), wherein the light system responds to control signals addressed to the address of the connector to which the light system is connected (Fig. 1).

Regarding claim 48, Recknagel et al. discloses the environment containing a corridor (Fig. 2), wherein the light system are disposed to illuminate at least one of the ceiling and the floor of the corridor (Fig. 2). (A set of bowling lanes is a very wide corridor.)

Concerning claim 49, Recknagel et al. discloses a plurality of lights using the control system to provide illumination of more than one color (Fig. 1, column 4 in lines 30-42).

Regarding claim 50, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Concerning claim 55, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Regarding claim 57, Recknagel et al. discloses a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Concerning claim 58, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

Regarding claim 59, Recknagel et al. discloses a lighting control system for controlling a plurality of lights (reference number 110) using the control system to provide illumination of more than one color (abstract), wherein one available color of light is white light (column 4, line 40) and another available color is non-white light (column 4, lines 30-42).



Concerning claim 60, Recknagel et al. discloses the white light being generated by a combination of red, green and blue light sources (column 4, lines 30-42).

Regarding claim 65, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, UV, amber, orange and white (column 4, lines 30-42).

Concerning claim 67, Recknagel et al. discloses the step of providing a secondary system for operating on the light output of the light system (column 3, lines 15-21).

Regarding claim 68, Recknagel et al. discloses the secondary system being selected from the group comprising an optic, a phosphor, a lens, a filter, Fresnel lens, a mirror, and a reflective coating (lens, column 3 in lines 15-21).

Concerning claim 69, Recknagel et al. discloses a control system for generating a lighting control signal (reference number 110) for controlling a lighting system that has a plurality of lights disposed in a plurality of positions within the environment (Fig. 1), a connector (reference numbers 120<sub>n</sub> and 125) between the control system and a plurality of the lights (Fig. 1), and an address facility of the connector (reference number 125), wherein a light connected to the addressed connector responds to an addressed control signal that is addressed to that connector (Fig. 1).

Regarding claim 70, Recknagel et al. discloses the lights comprising LEDs selected from the group consisting of red, green, blue, amber, UV, orange and white LEDs (column 4, lines 30-42).

Concerning claim 74, Recknagel et al. discloses the step of providing a facility for providing lighting control using more than one environmental system (Fig. 1).

Concerning claim 76, Recknagel et al. discloses the step of disposing in the environment a plurality of intelligent connectors (reference number 120<sub>n</sub>), each intelligent connector being capable of handling addressable lighting data from a lighting control system (Fig. 1).

Regarding claim 77, Recknagel et al. discloses the intelligent connector (reference number 120<sub>n</sub>) being located on the head end of a cable (Fig. 1).

Concerning claim 89, Recknagel et al. discloses a plurality of intelligent connectors (reference number 120<sub>n</sub>) disposed in the environment (Figs. 1 and 2), each intelligent connector being capable of handling addressable lighting data from a lighting control system (Fig. 1).

Regarding claim 90, Recknagel et al. discloses the intelligent connector (reference number 120<sub>n</sub>) being located on the head end of a cable (Fig. 1).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 2875

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 6-10, 43-47, 73, 83-88 and 96-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Speirs et al. (U.S. Patent 5,677,603).

Regarding claim 6, Recknagel et al. does not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al. to enable people to be sheltered while being transported from one place to another.

Concerning claim 7, Recknagel et al. discloses the step of providing an interface of the lighting control system to another computer system (reference number 150, Fig. 1). Recknagel et al. does not disclose an aircraft cabin. Speirs et al. discloses the environment as an aircraft cabin (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the aircraft cabin of Speirs et al. with the apparatus of

Art Unit: 2875

Recknagel et al. to enable people to be sheltered while being transported from one place to another.

Regarding claim 8, Recknagel et al. does not specifically disclose a shielding facility to minimize emission of interfering signals. Speirs et al. discloses the step of providing a facility for shielding an element of the lighting system to minimize emission of interfering signals (column 5, lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the shielding facility of Speirs et al. in the apparatus of Recknagel et al. to prevent light from entering certain areas of the cabin at inappropriate times. See column 5, lines 5-26, of Speirs et al.

Regarding claim 9, Recknagel et al. discloses the other computer system being at least one of a steering system, navigation system, a safety system, a sensor system, an alarm system, a maintenance system, a communications system or an entertainment system (an entertainment system, column 8 in lines 4-10).

Concerning claim 10, Recknagel et al. does not specifically disclose light systems illuminating the environment of a plurality of seats. Speirs et al. discloses an environment containing a plurality of seats (aircraft cabin, abstract), wherein the light systems are disposed to illuminate the environments of the seats (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the environment of Speirs et al. with the apparatus of Recknagel et al. to enable people to travel by air.

Regarding claim 43, Recknagel et al. does not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al. to enable people to be transported from one place to another.

Concerning claim 44, Recknagel et al. discloses the step of providing an interface of the lighting control system to another computer system (reference number 150, Fig. 1). Recknagel et al. does not disclose an aircraft cabin. Speirs et al. discloses the environment as an aircraft cabin (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the aircraft cabin of Speirs et al. with the apparatus of Recknagel et al. to enable people to be sheltered while being transported from one place to another.

Regarding claim 45, Recknagel et al. does not specifically disclose a shielding facility to minimize emission of interfering signals. Speirs et al. discloses the step of providing a facility for shielding an element of the lighting system to minimize emission of interfering signals (column 5, lines 5-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the shielding facility of Speirs et al. in the apparatus of

Art Unit: 2875

Recknagel et al. to prevent light from entering certain areas of the cabin at inappropriate times. See column 5, lines 5-26, of Speirs et al.

Regarding claim 46, Recknagel et al. discloses the other computer system being at least one of a steering system, navigation system, a safety system, a sensor system, an alarm system, a maintenance system, a communications system or an entertainment system (an entertainment system, column 8 in lines 4-10).

Concerning claim 47, Recknagel et al. does not specifically disclose light systems illuminating the environment of a plurality of seats. Speirs et al. discloses an environment containing a plurality of seats (aircraft cabin, abstract), wherein the light systems are disposed to illuminate the environments of the seats (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the environment of Speirs et al. with the apparatus of Recknagel et al. to shelter people who are traveling by air.

Regarding claim 73, Recknagel et al. does not disclose an aircraft environment. Speirs et al. discloses an aircraft environment selected from the group consisting of the exterior, the cabin interior, a ceiling, a floor, a cockpit, a bathroom, a kitchen, a corridor, an aisle and a seat (cabin interior, abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the environment of Speirs et al. with the apparatus of Recknagel et al. to shelter people who are traveling by air.

Concerning claim 83, Recknagel et al. does not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al. to enable people to be sheltered while being transported from one place to another.

Regarding claim 84, Recknagel discloses the step of providing a lighting unit adapted to connect to an intelligent connector (Fig. 1, reference numbers 120<sub>n</sub> and 125), the lighting unit capable of responding to control signals handled by the intelligent connector (Fig. 1).

Concerning claim 85, Recknagel et al. discloses the lighting unit including a white light mode (column 4, line 40) and a non-white light mode (column 4, lines 30-42).

Regarding claim 86, Recknagel et al. discloses the white light mode of the lighting unit being capable of producing different color temperatures of white light (column 4, lines 30-42). (The colored light can be mixed in different ways to produce different color temperatures of white light.)

Concerning claim 87, Recknagel et al. discloses providing control software for controlling lighting signals sent to the addressable connectors (column 7, lines 50-67). (A bowling scoring system is software.)

Regarding claim 88, Recknagel et al. discloses the control software having a facility for associating lighting control signals with data of the environment (column 7, lines 50-67).

Regarding claim 96, Recknagel et al. does not disclose a transportation environment. Speirs et al. discloses the environment as a transportation environment (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the transportation environment of Speirs et al. with the apparatus of Recknagel et al. to enable people to be sheltered while being transported from one place to another.

Concerning claim 97, Recknagel et al. discloses a lighting unit adapted to connect to an intelligent connector (Fig. 1, reference numbers 120<sub>n</sub> and 125), the lighting unit capable of responding to control signals handled by the intelligent connector (Fig. 1).

Regarding claim 98, Recknagel et al. discloses the lighting unit including a white light mode (column 4, line 40) and a non-white light mode (column 4, lines 30-42).

Concerning claim 99, Recknagel et al. discloses the white light mode of the lighting unit being capable of producing different color temperatures of white light (column 4, lines 30-42). (The colored light can be mixed in different ways to produce different color temperatures of white light.)



Regarding claim 100, Recknagel et al. discloses control software for controlling lighting signals sent to the addressable connectors (column 7, lines 50-67). (A bowling scoring system is software.)

Concerning claim 101, Recknagel et al. discloses the control software having a facility for associating lighting control signals with data of the environment (column 7, lines 50-67).

12. Claims 14, 17, 24, 27, 51, 54, 61 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Fleischmann (U.S. Patent 6,203,180).

Regarding claim 14, Recknagel et al. does not disclose white light being generated by a white light source. Fleischmann discloses white light being generated by a white light source (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the white light source of Fleischmann in the apparatus of Recknagel et al. since both light sources are equivalent to one another and the selection of one versus the other is for design aesthetic. See column 2, lines 24-30, of Fleischmann.

Concerning claims 17, 27, 54 and 64, Recknagel et al. discloses LEDs of red, green and blue colors (column 4, lines 35-40). Recknagel et al. does not disclose white LEDs.

Fleischmann discloses LEDS of a white color (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the white LED to the LEDs of Recknagel et al. to achieve the desired aesthetic effect. See column 2, lines 24-30, of Fleischmann.

Regarding claims 24, 51 and 61, Recknagel et al. does not disclose a white light source. Fleischmann discloses white light being generated by a white light source (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the white light source of Fleischmann in the apparatus of Recknagel et al. since both light sources are equivalent to one another and the selection of one versus the other is for design aesthetic. See column 2, lines 24-30, of Fleischmann.

13. Claims 15, 16, 25, 26, 52, 53, 62, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Fleischmann as applied to claims 14, 24, 51 and 61, and further in view of Rahm et al. (U.S. Patent 6,636,003).

Regarding claims 15, 25, 52 and 62, Recknagel et al. and Fleischmann do not specifically disclose modifying the color temperature of white light by mixing light from a second light source.

Rahm et al. discloses modifying the color temperature of white light by mixing light from a second light source (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Rahm et al. in the apparatus of

Recknagel et al. and Fleischmann to provide an apparatus with a white light that "can be easily adjusted to produce a white light of a desired color temperature" to create an aesthetically pleasing lighting effect. See column 2, lines 27-30, of Rahm et al.

Concerning claims 16, 26, 53 and 63, Recknagel et al. and Fleischmann do not specifically disclose the second light source modifying the white light source as described in the claim.

Rahm et al. discloses the second light source being a light source selected from the group consisting of a white source of a different color temperature, an amber source, a green source, a red source, a yellow source, an orange source, a blue source, and a UV source (amber, column 2 in lines 45-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Rahm et al. in the apparatus of Recknagel et al. and Fleischmann to provide an apparatus with a white light that "can be easily adjusted to produce a white light of a desired color temperature" to create an aesthetically pleasing lighting effect. See column 2, lines 27-30, of Rahm et al.

14. Claims, 4, 5, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shintani (U.S. Patent 5,646,608).

Regarding claims 4 and 41, Recknagel et al. does not disclose a two-way data interface. Shintani discloses a two-way data interface between the lights and the control system (Fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Shintani in the apparatus of Recknagel et al. to enable a "single remote control unit . . . [to] control the plural electronic devices in the audiovisual room." See the abstract of Shintani.

Concerning claims 5 and 42, Recknagel et al. discloses the control system communicating data with the light system (Fig. 1), and the data is selected from the group consisting of control data, temperature data, performance data, performance history data, light histogram data, intensity data, color temperature data, on-off status data, color data, time data, total-on-time data, light show data, lighting effect data, alarm data, maintenance data, power-usage data, system status data, customer-entered data, advertising data, branding data and communications data (light show data, column 7 in lines 60-67).

15. Claims 19, 29, 56 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Shoji (JP 2002134284).

Regarding claims 19, 29, 56 and 66, Recknagel et al. does not disclose white LEDs. Shoji discloses white LEDs the color temperature of which can be varied (English abstract).

Providing a plurality of white LEDs of more than one color temperature is considered to be an obvious variation. Since it is well known in the art to vary the color temperature of a white LED, it would have been obvious to one of ordinary skill in the art

to provide a plurality of white LEDs of various color temperatures to produce a desired aesthetic effect.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Shoji in the apparatus of Recknagel et al. to achieve the desired color temperature or other lighting effect in order to achieve the desired aesthetic or lighting effect. See the English abstract of Shoji.

16. Claims 33-36, 71-72, 78-81 and 91-94 rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Mitchell (U.S. Patent 6,614,126).

Regarding claims 33 and 71, Recknagel et al. does not disclose the control system having an interface to another system of the aircraft. Mitchell discloses the control system having an interface to another system of the aircraft (column 5, lines 20-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al. to reduce the infrastructure necessary to provide extra data features for aircraft passengers. See column 1, lines 40-62, of Mitchell.

Concerning claims 34 and 72, Recknagel et al. does not disclose the control system having an interface to another system of the aircraft. Mitchell discloses the other system being selected from the group consisting of a navigation system, a safety system, an alarm system, a maintenance system, a communications system and an entertainment system (communications system, column 1 in lines 50-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al. to reduce the infrastructure necessary to provide extra data features for aircraft passengers. See column 1, lines 40-62, of Mitchell.

Regarding claims 35, Recknagel et al. does not disclose an aircraft environment. Mitchell discloses an aircraft environment selected from the group consisting of the exterior, the cabin interior, a ceiling, a floor, a cockpit, a bathroom, a kitchen, a corridor, an aisle and a seat (cabin interior, abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al. to reduce the infrastructure necessary to provide extra data features for aircraft passengers. See column 1, lines 40-62, of Mitchell.

Concerning claim 36, Recknagel et al. discloses the step of providing a facility for providing lighting control using more than one environmental system (Fig. 1).

Regarding claims 78 and 91, Recknagel et al. does not disclose the intelligent connector being located proximally to the seat of an aircraft passenger. Mitchell discloses the intelligent connector (top, Fig. 5) being located proximally to the seat of an aircraft passenger (Fig. 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al. to allow aircraft passengers to access different airplane systems while on the plane. See Fig. 5 of Mitchell.

Concerning claims 79 and 92, Recknagel et al. does not disclose the lighting control system being in communication with a non-lighting system of the aircraft. Mitchell discloses the lighting control system being in communication with a non-lighting system of the aircraft (column 5, lines 20-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al. to allow aircraft passengers to access different airplane systems while on the plane. See Fig. 5 of Mitchell.

Regarding claims 80 and 93, Recknagel et al. discloses the non-lighting system as an entertainment system (column 8, lines 4-35).

Concerning claims 81 and 94, Recknagel et al. does not disclose the non-lighting system as a communications system. Mitchell discloses the non-lighting system as a communications system (column 1, lines 59-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Mitchell with the apparatus of Recknagel et al. to allow aircraft passengers to access the phone system while on the plane. See column 5 in lines 59-65 of Mitchell.

17. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Mitchell as applied to claims 36 above, and further in view of Tadokoro et al. (U.S. Patent 4,367,470).

Regarding claim 37, Recknagel et al. and Mitchell do not specifically disclose a facility for prioritizing lighting commands from different lighting system control elements. Tadokoro et al. discloses the step of providing a facility for prioritizing lighting commands from different lighting control elements (column 2 in lines 5-25 and Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Tadokoro et al. in the apparatus of Recknagel et al. and Mitchell to reduce the amount of equipment needed to control several features of the apparatus. See column 1, line 50, to column 2, line 2, of Tadokoro et al.

18. Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Tadokoro et al.

Regarding claim 75, Recknagel et al. does not specifically disclose a facility for prioritizing lighting commands from different lighting system control elements. Tadokoro et al. discloses the step of providing a facility for prioritizing lighting commands from different lighting control elements (column 2 in lines 5-25 and Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Tadokoro et al. in the apparatus of Recknagel et al. to reduce the amount of equipment needed to control several features of the apparatus. See column 1, line 50, to column 2, line 2, of Tadokoro et al.



19. Claims 82 and 95 rejected under 35 U.S.C. 103(a) as being unpatentable over Recknagel et al. in view of Mitchell as applied to claims 79 and 92 above, and further in view of Lys et al. (U.S. Patent 6,211,626).

Regarding claims 82 and 95, Recknagel et al. and Mitchell do not specifically disclose the non-lighting system as a safety system. Lys et al. discloses the non-lighting system as a safety system (column 43, lines 35-60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the configuration of Lys et al. with the apparatus of Recknagel et al. and Mitchell to communicate information concerning the safety of the plane to the pilot. See column 43, lines 35-60, of Lys et al.

### ***Conclusion***

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharon E. Payne whose telephone number is (571) 272-2379. The examiner can normally be reached on regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sep



Sharon Payne  
Patent Examiner  
Technology Center 2800